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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I						
COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	145499	225944								
3153 Systems Architecture and Engineering	0	4615								
3155 Systems Engineering and Integration	60700	47789								
3261 TMD BM/C3I (BM/C3I Concepts)	47593	0								
3265 Joint TMD Warfighter Support	0	11492								
3352 Modeling & Simulation	0	25133								
3354 Targets	5886	0								
3359 Test, Evaluation and Assessment	22252	64827								
4000 Operational Support	9068	72088								

The BMD Program and resulting FY02 President's Budget request has been developed based on revised Secretary of Defense direction to develop capabilities to defend against the missile threat and sustain appropriate deterrence levels. Beginning in FY02, funding from this Program Element is moved to the Ballistic Missile Defense Organization Program Element 0603880C to facilitate BMD system capability evolution, allow timely responses and reactions to changes in the BMD program, and provide the programmatic agility to mitigate unforeseen consequences.

A. Mission Description and Budget Item Justification

In FY00 the Theater Missile Defense (TMD) program's goal was to develop, maintain and deploy a cost-effective, Anti-Ballistic Missile (ABM) Treaty compliant interoperable system designed to protect deployed forces and areas of operations against the immediate and growing threat from shorter range theater ballistic missiles. The TMD core programs are PATRIOT Advanced Capability (PAC-3), Theater High Altitude Area Defense (THAAD) System, Navy Area Theater Ballistic Missile Defense (TBMD) (formerly Lower Tier), and Navy Theater-Wide TBMD (formally Upper Tier).

Family of Systems Engineering and Interoperability (FoS E&I) sought to link the TMD core programs so that they fight as one system and obtain a force multiplier advantage. The projects in the Program Element built FoS interoperability by conducting assessments of joint interoperability to identify weaknesses, defining architectural/engineering

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solutions to correct the weaknesses, integrating solutions, and testing the FoS fixes. The FoS interoperability effort was focused on near term Joint Data Network interoperability. However, a continuing R&D investment in Joint Composite Tracking Network was maintained to achieve a future single integrated air picture.

This PE continued to provide the resources for BMDO's CINC's assessments and FoS Assessment Program along with the Modeling and Simulations tools necessary to support engineering validation.

In FY01 this Program Element transitions, within the constraints of the POM, to reflect BMDO's reorganization and mission execution improvements that capitalize on economy of force and optimization of resources allowing more efficient management of activities. The projects have been realigned within the PE to reflect their new functional tasks and funding levels. This PE funds the BMD architecture and engineering efforts needed to provide a seamless integrated Global Air and Missile Defense capability, which will meet the current and evolving threats of the 21st century. These efforts include: providing an interface with the warfighting community in order to identify their requirements to defend against the threat; to develop architectures to defeat the threat; and to assess and ensure systems integration interoperability; and to provide capabilities and expertise in the modeling and simulation, and test and evaluation fields.

<u>B. Program Change Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
Previous President's Budget (FY 2001 PB)	145657	231248		
Congressional Adjustments		0		
Appropriated Value		231248		
Adjustments to Appropriated Value		-3304		
a. Congressional Reductions (FFRDC, Inflation, etc)				
b. SIAP Reprogramming		-1500		
c. Emergency Supplemental				
d. Below Threshold				
e. Rescissions		-500		
Adjustments to Budget Years Since <u>FY 2001 PB</u>	-158	-5304		
Current Budget Submit (<u>FY 2002 PB</u>)	145499	225944		

Change Summary Explanation:

Starting in FY 01, all Family of Systems efforts from the Joint Theater Missile Defense program element (060387C2) will transfer to this program element to maintain adequate visibility into Theater Missile Defense efforts. Beginning in FY02, funding from this Program Element is moved to the Ballistic Missile Defense Organization Program Element 0603880C.

C. Acquisition Strategy: See Individual R2a summaries.

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BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3153		
<i>COST (In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3153 Systems Architecture and Engineering	0	4615								

A. Mission Description and Budget Item Justification

Beginning in FY 01, Project 3153 funds activities associated with the BMDO Chief Architect. Tasks within this project had funded the Deputy, Theater Air and Missile Defense (BMDO/AQ) activities prior to FY 01. The purpose of this project is to provide analysis and support for the development of a joint Theater Air and Missile Defense (TAMD) architecture. Joint Theater Air and Missile Defense (JTAMD) is the integrated capability to detect, classify, intercept, and destroy or negate the effectiveness of enemy aircraft and missiles prior to launch or while in flight, to protect U.S. and coalition forces, selected assets, and population centers within an assigned theater of operations. The TAMD architecture will focus on the integration of theater ballistic missile defense, cruise missile defense, air defense, and attack operations. This program provides funds to support the BMDO role in the Joint Theater Air and Missile Defense (JTAMD) process in the development of the TAMD Master Plan and assessment of associated system architectures and integration. In addition, the Chief Architect conducts quick reaction studies in response to immediate senior decision maker requests and decision support studies for resource allocation and long term planning. This program also supports international studies that explore Coalition interoperability concepts, architectures, and engineering requirements with major allies and coalition partners.

FY 2000 Accomplishments:

- In FY 00 funding for this project was in Project 3155 (Family of Systems Program Element (0603873C))

Total 0

FY 2001 Planned Program:

- 1273 Quick Reaction Analysis. Provide analysis to answer architectural questions raised by Senior DoD officials. Provide analysis support for the Summer Issues activities.
- 885 International Studies. Continue the US Joint Battle Management Architecture analysis using Extended Air Defense Testbed (EADTB). Continue major studies with NATO and Germany that focus on architectural considerations for developing US/NATO and US/Germany cooperative TMD architectures. Conduct NATO Feasibility Study and Israeli Architecture Study. Begin US/Turkey BMD Architecture Initiative.
- 2457 JTAMD Integration. Continue to refine JTAMD systems architecture, which fully incorporates Theater Ballistic Missile Defense, Cruise Missile Defense, and Attack Operations throughout the theater area of operations. Further refine acquisition and investment strategies for TAMD architectures.

Total 4615

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BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3153		
B. Other Program Funding Summary	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>
3153, Sys Arch & Engineering, PE 0603874C	15569	4416								
3153, Sys Arch & Engineering, PE 0603877C										
<p>C. Acquisition Strategy: The Theater Air and Missile Defense (TAMD) Integration project acquisition strategy goal is to develop the TAMD Master Plan and the Joint Theater Air and Missile Defense (JTAMD) acquisition strategy through the use of analysis and studies that focus on existing service systems. These studies and analyses will evaluate those systems for JTAMD interoperability and CMD/TBMD capability. The Systems Architecture development process will provide for the joint systems and technical architecture for the JTAMD process as a complement to the operational architecture provided by the Joint Chiefs of Staff through the Joint Theater Air and Missile Defense Organization (JTAMDO). Scientific Engineering and Technical Assistance (SETA) and analysis work in this project is contracted . Funding is provided for Service support to the JTAMD process.</p>										
D. Schedule Profile	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		
TAMD Master Plan 00		1Q								
TAMD Master Plan 01 (draft)		4Q								
US/Turkey BMD Architecture Initiative – NC3A Meeting and Brief		4Q								
Joint Acquisition Roadmap (JAR) update		1-3Q								
Joint US/Israel BMD Architecture Study IPR		2,3Q								
US/German Study IPR		1,2Q								
US/NATO TMD BMC3 Analysis CY 00 Final Review		2Q								
US/NATO TMD BMC3 Analysis IPR		3Q								

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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3153		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Product Development:												
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Army Analysis Support	Suballocation	DAMO / FDE		246	1Q01							
b. Navy Analysis Support	Suballocation	PMS / 456		1130	1Q01							
c. Air Force Analysis Support	Suballocation	SAF / AQPT		246	1Q01							
d. Marine Corps Analysis Support	Suballocation	MARCORSYSCOM		98	1Q01							
e. JNTF Website Support	Suballocation	JNTF		98	1Q01							
f. WEP Team	CPFF	Vanguard / VA		49	1Q01							
Subtotal Support Costs:				1867								
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Test and Evaluation:												
Remark:												

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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3153		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TAMD Integration Analysis	CPAF	SPARTA (various) / VA		2748	1Q01							
Subtotal Management Services:				2748								
Remark:												
Project Total Cost:				4615								
Remark:												
<div style="display: flex; justify-content: space-between;"> Project 3153 Page 6 of 37 Pages Exhibit R-3 (PE 0603873C) </div>												

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3155		
COST (In Thousands)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3155 Systems Engineering and Integration	60700	47789								

A. Mission Description and Budget Item Justification:

This project is part of a Program Element (PE) currently in a transition phase after BMDO's reorganization. BMDO has realigned its Systems Engineering functional tasks, which had previously been accomplished as a part of a number of projects under this PE and consolidated them under this project (3155).

The Systems Engineer is responsible for producing the BMD Functional Baseline (Systems Architecture Allocated Functional Requirements Document (SAAFRD)), which ensures the technical viability, integrity, and interoperability of the BMD program, to include TAMD, NMD and cruise missile options. Working in conjunction with the Chief Architect, Systems Engineering provides the core engineering capability to assess operational requirements and translates them into system requirements that are allocated to: legacy systems, modifications of legacy systems, and/or new system concepts necessary to meet user needs. This includes the development and allocation of systems requirements necessary to ensure that the Major Defense Acquisition Program (MDAP) systems are fully interoperable and provide maximum flexibility to the warfighter. Battle Management Command, Control, Communication (BM/C3) Systems Engineering provides the warfighter with timely, early warning information through development of a theater missile defense architecture that fosters interoperability and system integration. These activities also develop data standards, conduct studies and analyses, and formulate and implement policy and procedures to ensure that DoD and BMD interoperability requirements support the Services, allied and coalition partners. Working closely with the intelligence community, Systems Engineering establishes and maintains the design-to-threat requirements, funded via PE 0603876C, to ensure consistent threat parameters across the MDAPs.

To ensure the technical viability of BMDO programs, Systems Engineering conducts continuous assessments of systems development to assess progress, determine capability, and identify and mitigate risks, including risks incurred due to the evolving threat environment. Mitigation activities include the generation of technology requirements and identification of opportunities for technology insertion. Systems Engineering maintains an ongoing Corporate Lethality Program to characterize the effectiveness of the BMD architecture, understand post-intercept effects, establish methodologies to allow warhead typing based on impact response, and provide a common end-to-end lethality assessment capability across the MDAPs. Working in conjunction with the test and evaluation community, Systems Engineering develops test requirements and conducts post test analyses to ensure the MDAP systems meet requirements and satisfy warfighter needs. Finally, Systems Engineering executes the BMDO Configuration Control Process and maintains configuration control of TMD and NMD architecture baselines.

Systems Engineering is executed in a collaborative environment. BMDO maintains a close working relationship with the MDAP Program Managers, PEOs and the PEO Systems Engineers, and the BM/C3 Community. Additionally, BMDO continues to work with the Military Services, U.S. Space Command, U.S. Joint Organization to ensure full integration of other systems, sensors, and command and control centers that contribute to BMD.

FY 2000 Accomplishments:

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
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<ul style="list-style-type: none"> • 10192 Single Integrated Air Platform (SIAP) – Continued SIAP definition analysis, addressed how the union of Joint Data Network (JDN) and Joint Composite Tracking Network (JCTN) met SIAP requirements. Established JCTN benchmarking to identify best data fusion and composite tracking algorithm for SIAP. Continued efforts to migrate Cooperative Engagement Capability (CEC) to a Joint CEC/JCTN. Began acquisition activities for JCTN program planning and CEC cost reduction activities. Began JCTN/JDN gateway prototype efforts with JLENS office. • 14741 Theater Air & Missile Defense (TAMD) Integration – Continued to refine JTAMD systems architecture, which fully incorporated Theater Ballistic Missile Defense, Cruise Missile Defense, Attack Operations and Passive Defense. Further refined acquisition and investment strategies for JTAMD architecture. • 6881 Modeling and Simulation Development - Continued to develop TAMD System Specific Representations and advanced modeling and simulation capabilities to support TAMD requirements. • 1831 System Effectiveness – Continued to refine analysis of the effectiveness of JTAMD architecture to include end-game analysis, lethality analysis and support the planning of demonstration events. • 16900 TMD Systems Engineering – Provided scientific, engineering, and technical support for the acquisition, integration, and fielding of TMD systems including: review of products in comparison to standards, specifications, and requirements; modeling and simulation support of architecture analyses and trade-off studies; risk reduction and acquisition streamlining support; development of specifications and program documentation for JDN fixes and enhancements; engineering and technical support for international programs and BM/C3 efforts; conducted Extended Air Defense Test Bed (EADTB) distributed analyses and operations; developed and maintained technical and programmatic databases; and prepared technical reports, briefings, and programmatic documentation. • 1080 Test Planning and Support – Supported development of TMD inter-service test planning documentation. Conducted TMD Consolidated Evaluation Plan / Integrated Test Plan review. Produced final draft of TMD Capstone TEMP. Developed JDN test plan working draft. Coordinated and participated in Joint Test Planning Teams and Test and Evaluation IPTs. • 9075 BMD Impact Analysis and Engineering – Delivered short notice engineering and analytical recommendations and proposed solutions associated with broad ballistic missile defense issues. Provided congressional, OSD, and BMDO leadership with a range of options for dealing with threat, architectural and system elements influencing the design and composition of US ballistic missile defenses. Included resources to foster improvements in BMD command and control leading towards a coordinated engagement capability and single integrated air picture. 		
Total	60700	
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603873C Family of Systems E & I	PROJECT 3155
<p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 26237 General Engineering - Initiate development of the BMD Functional Baseline (SAAFRD). Conduct system engineering assessments of BMD programs to identify performance/cost/schedule issues within these programs and assess potential solutions. Develop and implement the BMD Corporate risk management process. Develop and track Technical Performance Measures for the BMD System Architecture. Baseline the items for Configuration Control of the BMD Systems Architecture. Assemble and prioritize technology needs (including manufacturing technologies) for input to the BMDO S&T program. Lead migration of BMD systems and architectures toward Open Systems implementations. Perform cost benefit analysis of alternatives for BMDO MDAP high cost items and cost drivers. Perform independent technical and engineering assessments of BMD system architectures including trade-off studies using Federally Funded Research and Development Centers (FFRDC)/National Laboratories/University Affiliated Research Centers resources. • 10482 BM/C3 – Initiate development of a TBMD BMC3 System Requirements Document (SRD) to support the overarching Systems Architecture Allocated Functional Requirements Document (SAAFRD) document; develop a Family of Systems (FoS) Integrated System Specification (ISS) to baseline current TBMD performance capabilities; develop an FoS System Performance Specification (SPS) focused on meeting near-term BMC3 interoperability requirements. Develop TBMD Link-16 and Global Command and Control System (GCCS) interoperability enhancements (e.g. Coalition/Ally tactical TBM message exchanges, Joint Range Extension, and integration of joint service force planners such as the Joint Defensive Planner). Develop and maintain a list of BM/C4I risks; monitor and assess BM/C4I CARDS; develop TMD Interface Exchange Requirements (IER); develop a TMD/NMD Interoperability Program Plan and Interoperability Roadmap; and define interoperability test and tool requirements. Conduct interoperability studies and experiments; Missile Defense Interoperability Plan; BMDO annual interoperability and capability report, allied/coalition BM/C3 Analysis (NATO, UK, Israel, etc.); Interoperability Analysis of Service's Joint Planning Network, Joint Data Network and Joint Composite Tracking Network. Provide support to the Ballistic Missile Defense System Architecture Study (BMDSAS) with regard to C4ISR, and DUSD C3I efforts; support Joint Mission Area Analysis (JMAA) and development of Ballistic Missile Information Architecture. Support JTA Compliance and Missile Defense (MD) Annex development, Migration Plans and waivers as required; Data Element Dictionary (DED) for MD; development of BMDO Technical Architecture, and BMDO C4ISR Support Plans. • 4782 Impact 98 - This task is a continuation of the Theater Air & Missile Defense Initiative (TAMDI) ACTD, which began in FY98 and continues through FY03. Impact 98 addresses the value added of the PAC-3/THAAD/CEC/AEGIS composite track, associated identification process and the Engage-On-Remote kill assessment to a common air picture. Efforts concentrate on the interoperability between land and sea based Theater Missile Defenses' BMC3 system platforms. • 6288 Support the BMDO administration effort; monies to be expended on SMDC salaries. <p>Total 47789</p>		
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B. <u>Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>
3155 SYS ENG & INTEGRATION, PE 0208864C		3938								
3155 SYS ENG & INTEGRATION, PE 0603877C										
3155 SYS ENG & INTEGRATION, PE 0603872C	47144									
3155 SYS ENG & INTEGRATION, PE 0603874C		23574								
3155 SYS ENG & INTEGRATION, PE 0603876C		9692								

C. Acquisition Strategy: The 3155 Project acquisition strategy leverages existing system acquisition programs (which are subject to milestone decisions and testing) and accomplishes supporting tasks to satisfy Systems Engineering performance requirements. A portion of this project entails systems engineering of separately funded and managed service programs so that all systems will interoperate when fielded.

D. <u>Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Identify BMC4I Risks		1Q						
Develop./Maintain Risk Mitigation Plans		1Q						
Develop/Maintain Software Engineering		1Q 4Q						
Revise BMDO Dir. 3405		2Q						
Coordinate BMDO Software Policy		3Q						
Develop/Revise MD Interop. Plan		1Q						
Develop/Revise Security Architecture		1Q						
Publish BMC4I Analysis Results		4Q						
Publish NATO BMC4 Analysis Final Report		4Q						
Publish US/GE Analysis Final Report		4Q						
Develop MD Technology Roadmap		1Q						
Standards Compliance Lessons Learned Data Base		3Q						
Publish JTA Annual Report		4Q						
Develop Processes JTA MD Subdomain		4Q						
Investigate Joint Tactical Radio System (JTRS)		2Q						
Maintain Control Over Sys. Interf.		Quarterly						
BMC4I Standards Compliance		Quarterly						
Enforce BMDO JTA		Quarterly						

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BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT
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Direct Processes BMC4I Sensor System Engineering		Quarterly					
Final development/fielding of JDP V.2x into GCCS V4.0		3Q					
Final development/fielding of JDP V.2x into TBMCS V2.0		3Q					
TAMD-I ACTD		3Q					
TBMD Enhancements		1Q					
Develop TBMD BMC3 Systems Requirements Document (SRD)		3Q					
Integrated System Specification (ISS) Draft/Final		Quarterly					
System Performance Specification Draft/Final		Quarterly					
Joint Range Extension (JRE) Prototype Gateway Development	3Q						
Operational DEMO @ Roving Sands	3Q						
Develop JRE Interim Capability		1Q					
Assemble tech viable analysis team to audit technical health of each BMD program		1Q					
Complete initial BMD level TPM's		1Q					
Develop Security Architecture		1Q					
Collect TPM Data to validate selected measures, establish control thresholds		2Q					
Start operational vs system requirements synergies vs disconnect analysis		2Q					
Stand-up CCB and BMD Configuration Management process – Run DTT through the process		2Q					
Develop M&S and Test Tool Strategy		3Q					
Complete initial technical viability assessments for BMD program		3Q					
Establish Configuration Control or BMD Baselines to be Managed, Complete Analysis of 1 st Iteration of System Architecture Baseline		4Q					
Assess TPM Utility, Relate Requirements to M&S and T&E Activities		4Q					
Operational/System requirements integration		4Q					
JRE Application Protocol		4Q					
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Complete expansion of SE World Class Engineering Process briefing into a training manual for new BMDO and contractor engineers		4Q							
Obtain Approval for Initial NMD/TBMD SAAFRS		4Q							
Complete initial integration of operational vs systems requirements		4Q							
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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3155		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal Product Development												
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Single Integrated Air Picture	Various	Multiple	13897								13897	
b. TAMD Integration	Various	Multiple	23838								23838	
c. Modeling & Simulation Development	Various	Multiple	11872								11872	
d. System Effectiveness	Various	Multiple	3131								3131	
e. TMD Systems Engineering	Various	Multiple	17770								17770	
f. Test Planning & Support	Various	Multiple	180								180	
g. BMD Impact Analysis & Engineering	Various	Multiple	9155								9155	
h. System Engineering	Various	POET, Multiple		9346							9346	
i. System Engineering & Integration (SE&I)	CPFF	TRW		9671							9671	
j. System Engineering	CPAF	Sparta, Arlington, VA		5979							5979	
k. System Engineering	CPFF	CSC, Arlington, VA		3505							3505	
l. System Engineering	CPFF	VRI, Arlington, VA		698							698	
m. ABL PB	Allotment	Services, Various		2444							2444	
n. TMDSE	Allotment	Services, Various		140							140	
o. BMD Functional Baseline & SAAFRS	Allotment	Services, Various		837							837	
p. TPM Development & Tracking	Allotment	Services, Various		280							280	
q. BMD Risk Management	Allotment	Services, Various		140							140	
r. Test Requirements	Allotment	Services, Various		280							280	
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4 - Demonstration and Validation					0603873C Family of Systems E & I						3155		
s.	Configuration Baseline Tracking & Analysis	Allotment	Services, Various		697							697	
t.	MDAP Baselineing / TIM / ISS	Allotment	Services, Various		1047							1047	
u.	JREAP & Interim Capability	Allotment	Services, Various		1047							1047	
v.	JDP	Allotment	Services, Various		145							145	
w.	BMC4I Standards Compliance	Allotment	Services, Various		463							463	
x.	ACTD	Allotment	Services, Various		4782							4782	
Subtotal Product Development				79843	41501							121344	
Remark:													
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract	
a.													
Subtotal Test and Evaluation:													
Remark:													
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract	
a. Personnel Costs	Allotment	SMDC		6288							6288		
Subtotal Mgmt Services				6288							6288		
Remark:													
Project Total Cost:			79843	47789							127632		
Remark:													
Project 3155													
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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3261		
COST (In Thousands)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3261 TMD BM/C3I (BM/C3I Concepts)	47593	0								

A. Mission Description and Budget Item Justification

The objective of this project was to provide the warfighter with Theater Air and Missile Defense (TAMD) Battle Management/Command, Control and Intelligence (BM/C3I) that is flexible, responsive, and interoperable. TAMD is based on a Family-of-Systems (FoS) concept where the Services' air and ballistic missile defense and command and control (C2) systems are integrated together using various existing and developing communications capabilities and systems. The resulting FoS provides the CINC with TAMD systems 'plug and fight' capability to address a wide variety of air and missile threats that can be tailored for the theater of operations.

To achieve the objective of providing the warfighter with flexible, responsive, and interoperable BM/C3I for TAMD, the Ballistic Missile Defense Organization (BMDO) used this project to provide oversight, leadership, guidance, and support to the Services' TAMD BM/C3I programs. The focus was on Joint approaches to integrate and synergize the Services' programs to include: (1) early warning and dissemination of theater ballistic missile launch information, (2) communication, and (3) command and control upgrades. In concert with this successful approach, BMDO developed the TAMD BM/C3I Architecture to enable further interoperability improvements. By focusing project efforts on this architecture, the integration of individual activities was enhanced while continuing to support earlier objectives.

The TAMD BM/C3I Architecture can be viewed as a set of FoS connectivities and common mission functions integrated via three networks: (1) the Joint Data Network (JDN): a near-real-time network based primarily on the Tactical Digital Information Link [TADIL-J / LINK-16] to provide overall FoS situational awareness, command and control, and weapon coordination; (2) The Joint Planning Network (JPN): a non-real-time/near-real-time network building upon the Global Command and Control System (GCCS) to support centralized planning and guidance. The JPN will complement the JDN by enabling consistent TAMD plan development and dissemination across command levels, Services, and the CINCs; (3) The Joint Composite Tracking Network (JCTN): a real-time network based on the Navy's Cooperative Engagement Capability (CEC) to directly link sensors and shooters within a theater to provide fire-quality information to maximize the effectiveness of multiple systems.

To achieve the TAMD BM/C3I Architecture, project efforts addressed the following key areas: the development of external cueing for FoS sensors; the implementation of JDN [TADIL-J / LINK-16] TAMD messages in FoS C2 nodes; and the development and integration of GCCS TAMD applications. The overall objective of this project was to ensure the integration of Service systems so that they are both affordable and jointly interoperable.

Recent emphasis focused on the "FoS Interoperability" project. This project contained Link-16 fixes and enhanced Communication Information Management (CIM) efforts. These tasks contributed vertical and horizontal integration of the JPN, JDN and JCTN in support of joint and coalition TAMD operations, such as: Joint Range Extension (JRE), Time Slot Reallocation (TSR) and Joint Interface Control Officer (JICO) enhancements. The project further provided system engineering and technical support for the integration of Service-supplied weapon systems to facilitate the identification and resolution of inter-Service integration and interoperability issues; technical and engineering assessments and trade-off studies of Theater Air and Missile Defense (TAMD) system architectures and concepts; support for UK developed sensor data fusion methodology; Ballistic Missile Defense (BMD) system survivability oversight and assessment; risk reduction and acquisition streamlining

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE June 2001
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603873C Family of Systems E & I	PROJECT 3261
<p>support; modeling, simulation, experiment, and flight test support; development and maintenance of technical and programmatic databases; and preparation of technical reports, briefings, and programmatic documentation associated with TAMD studies and critical issues.</p> <p>FY 2000 Accomplishments:</p> <ul style="list-style-type: none"> 6252 BM/C3I Integration – Army: Air and Missile Defense Planning and Control System (AMDPCS) with JTAMD: Continued to integrate Common Tactical Picture and interface with TBMCS and COMPASS; began discussions with the Area Air Defense Commander (AADC) on future interface and software reuse per Chairman Joint Chiefs of Staff Memorandum and Memorandum of Agreement; hosted PATRIOT Defense Planner for first step in “plug and fight” capability; and integrated AMD common database; 8300 BM/C3I Integration – Air Force: JDN Program Support identified System Engineering Authorities; participated in JDN conceptual design and development, provided current platform status in support of OPFAC baselining; supported System Engineering staff visits to OPFACs supported FY 02 POM Process; participated in planning meetings, reviews, ICWGs; and provided OPFAC baselining support; JDN Modeling and Simulation (M&S): Provided critical ongoing M&S support to joint working groups standardizing Link 16 (e.g., Joint Message Standards Working Group, Theater Missile Defense SubGroup, and Ad Hoc Time Slot Reallocation Working Group). TSR: Analyzed merger of NPG7 with NPG8 using ESC’s Link 16 modeling and simulation capability at Modeling & Analysis Simulation Center and investigated speed-of-service requirements for TSR receipt compliance messages without donated time slots. JCTN Benchmark Development: Provided Air Force support and expertise to JCTN Benchmark development, e.g., JCTN Benchmark code review and software testing and improved JCTN Benchmark functionality (e.g., improved coordinate conversion techniques). 7522 BM/C3I Integration – Navy and United States Marine Corps. Continued JRE IPT support; continued efforts to finalize and implement JRE Application Protocol along with test and demonstration. Participated in the Joint Defensive Planner (JDP) User’s Group; delivered Navy Area System representation; continued delivery of MIDs and Common Operational Picture import functionality for JDP2.0; continued participation in JTAMD data standardization and development efforts; continued participation in JDP Technical Interchange Meetings (TIMs) relative to GCCS, TMBCS and AADC Capability. JDN Message Development Support: Supported the following events: 00-1 US/UK Bilateral, TMDSG 00-2, JMSWG 00-2, TADIL CCB 00-2, VMFSG 00-2, 22nd DLWG, 00-2 TISG-TADIL, VMFSG 00-3, TMDSG 00-3, and JMSWG 00-3. Time Slot Reallocation: Completed the Detailed Design Review; Consolidated Software Support Activity delivered NICP 4.03; and completed the Test Readiness Review (TRR). FoS JDN Program Support: Completed review/comments for BMDO Capstone FoS TEMP; completed review/comments for JDN Performance Specification (SPS) Analysis Plan; provided POM 02 budget input; completed OPFAC Baseline Configuration Surveys and site visits/TIMs of GCCS-M and ATDLs, continued the ACDS Configuration Survey; and continued the AEGIS Configuration Survey. Single Integrated Air Platform (SIAP) – Continued SIAP Analysis using MSCT. Engineered interfaces for multi-sensor input to MSCT and demonstrated SIAP development during ASCIET ’00; followed on data analysis near completion; delivered Outcome Report to BMDO; demonstrated Joint Composite Tracking Network functionality over Enhanced Position Location Reporting System communication using Tracking Composite Network technology. 		
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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE
		June 2001
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Demonstration and Validation	0603873C Family of Systems E & I	3261
<ul style="list-style-type: none"> 2625 BM/C3I Integration- Joint/Combined: Supported joint testing for TAMD messages; developed theater forwarding rules for JDN message development; supported integration of multiple intel broadcasts into the integrated architecture based on common format and migration to unified joint DEDs; Athena participated in SIT '00 developed a draft interface change proposal for a joint method of geodetic alignment and sensor registration. 5316 CEC Demonstration -IMPACT 98 – This Advanced Concept Technology Demonstration (ACTD) program provides data to extend the evaluation of enhanced warfighting capabilities and provides engineering data to enable an assessment of the potential for PATRIOT, THAAD, and CEC contributions in: increasing Theater Air and Missile Defense defended area, initiating a U.S. Army/U.S. Navy SIAP, and increasing contingency operation capability. FY 2000 efforts included: 1) Demonstrating the capability to engage a low altitude surrogate cruise missile with a PATRIOT PAC-3 missile at Over-The-Horizon ranges using AEGIS/CEC data. 2) Conducting a THAAD/CEC data collect and analysis and integration investigation. 342 BM/C3I Integration – Joint National Test Facility: Developed Air taskings orders to support TAMD exercises; performed DII COE standards compliance validation on TAMD GCCS developed software; built out the BMC3 test center; documented testing for TAMD BMC3; provided exercise support for rapid prototype testing of TAMD BMC3 concepts. 5113 FoS Interoperability - This task contributed to vertical and horizontal integration of the JPN, JDN and JCTN in support of joint and coalition TAMD operations, such as: JRE, TSR and JICO enhancements. The Army, Navy, Marine Corps, Air Force and Joint National Test Facility will provide support to Inter-Service integration, interoperability, identification and resolution of interface issues. Provide support to the JTAMD Process and its associated JTAMD Master Plan development, JTAMDO sponsored WIPTs, JTAMD Systems Architecture development, and the Systems Engineering and Integration (SE&I) process. Perform special studies as assigned and provide support to AQ Systems Interoperability and Integration (SI&I) efforts. 12123 TMD Systems Engineering – Provide scientific, engineering, and technical support for the acquisition, integration, and fielding of TMD systems including: review of products in comparison to standards, specifications, and requirements; modeling and simulation support of architecture analyses and trade-off studies; risk reduction and acquisition streamlining support; development of specifications and program documentation for JDN fixes and enhancements; engineering and technical support for international programs and BM/C3 efforts; conduct EADTB distributed analyses and operations; development and maintenance of technical and programmatic databases; and preparation of technical reports, briefings, and programmatic documentation. 		
Total	47593	
FY 2001 Planned Program:		
<ul style="list-style-type: none"> 0 		
Total	0	
Project 3261	Page 17 of 37 Pages	Exhibit R-2A (PE 0603873C)

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3261		
B. <u>Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>
<p>C. <u>Acquisition Strategy:</u> The 3261 Project acquisition strategy leveraged existing system acquisition programs (which are subject to milestone decisions and testing) and accomplishes supporting tasks to satisfy BM/C3I performance requirements. A significant portion of this project entailed systems engineering of separately funded and managed service programs so that all systems will interoperate when fielded.</p>										
D. <u>Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		
Final development and fielding of JDP V 2.0 into GCCS V4.0	X									
Initial version of JDP V 3.0	X									
Coordinate documentation, issues, suggested correction, and resolution plans concerning the JTAMDO/BMDO Family of Systems Architecture	X									
Install Area Limitation prototype at the CUBE or JNTF	X									
Support and incorporate WIPT analysis as results into the FoS management plan	X									

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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I						PROJECT 3261		
I. Product Development												
	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	TMDSE - JNTF	Allotment	Multiple	12203								
b.	Army PEO-AMD	Allotment	Multiple	12665								
c.	Air Force ESC	Allotment	Multiple	16305								
d.	USMC Sys Com	Allotment	Multiple	6378								
e.	Navy PEO-TAD	Allotment	Multiple	12016								
f.	BMDO	Allotment	Multiple	3744								
g.	CEC/Impact '98	Allotment	Multiple	6719								
h.	JNTF	Allotment	Multiple	1363								
i.	FoS Interoperability	Allotment	Multiple	9529								
Subtotal Product Development:			80922									
Remark:												
II. Support Costs												
	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	Army PEO-AMD	Allotment	Multiple	989								
b.	Air Force ESC	Allotment	Multiple	898								
c.	USMC Sys Com	Allotment	Multiple	296								
d.	Navy PEO-TAD	Allotment	Multiple	989								
e.	BMDO	Allotment	Multiple	750								
f.	JNTF	Allotment	Multiple	494								
Subtotal Support Costs:			4416									
Remark:												
III. Test and Evaluation												
	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a												
Project 3261												

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3261		
Subtotal Test and Evaluation:												
Remark:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal Test and Evaluation:												
Remark:												
Project Total Cost:			85338									
Remark:												
Project 3261				Page 20 of 37 Pages				Exhibit R-2A (PE 0603873C)				

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3265		
COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3265 Joint TMD Warfighter Support	0	11492								
A. <u>Mission Description and Budget Item Justification</u> <u>CINCs Experiments:</u> This effort funds BMDO's Commanders In Chiefs (CINCs') Assessment Program. This program uses experiments, technology demonstrations, and theater-level exercises to help ensure the joint interoperability and successful fielding of Theater Air and Missile Defense (TAMD) Family of Systems (FoS) to the warfighting customers. In addition, it supports the development of joint interoperability TAMD doctrine, Concepts of Operations (CONOPS), and Tactics, Techniques, and procedures (TTPs); and provides Joint/Coalition/Allied TAMD interoperability data.. FY 2000 Accomplishments: <ul style="list-style-type: none"> • 0 See Project 3359 (PE 0603872C and PE 0603873C) for related activities. Total 0 FY 2001 Planned Program: <ul style="list-style-type: none"> • 2140 Support CINC USJFCOM by adding TAMD overlays to selected exercises, collecting data, analyzing results, and developing CONOPS &TTPs • 2931 Support CINC USFK by adding TAMD overlays to selected exercises, collecting data, analyzing results, and developing CONOPS &TTPs • 2140 Support CINC USPACOM by adding TAMD overlays to selected exercises, collecting data, analyzing results, and developing CONOPS &TTPs • 2233 Support CINC USEUCOM by adding TAMD overlays to selected exercises, collecting data, analyzing results, and developing CONOPS &TTPs • 2048 Support CINC USCENCOM by adding TAMD overlays to selected exercises, collecting data, analyzing results, and developing CONOPS &TTPs Total 11492										
B. <u>Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
3359, Test, Eval & Assessment, PE 0603872C	19915								TBD	TBD
3359, Test, Eval & Assessment, PE 0603873C	22252	68627							TBD	TBD
<div style="display: flex; justify-content: space-between; padding-top: 20px;"> Project 3265 Page 21 of 37 Pages Exhibit R-2A (PE 0603873C) </div>										

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)						DATE June 2001																													
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3265																											
<p>C. <u>Acquisition Strategy:</u> The CINC Experiments program is managed and executed through the use of weekly task plans, monthly progress and expenditure reports, quarterly reviews, and semi-annual assessments. Each theater conducts monthly In-process reviews to monitor and manage the preparation for scheduled activities. ORDs/CRDs, CONOPs and TTPs are updated throughout the year.</p>																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><u>D. Schedule Profile</u></td> <td style="width: 5%;"><u>FY 2000</u></td> <td style="width: 5%;"><u>FY 2001</u></td> <td style="width: 5%;"><u>FY 2002</u></td> <td style="width: 5%;"><u>FY 2003</u></td> <td style="width: 5%;"><u>FY 2004</u></td> <td style="width: 5%;"><u>FY 2005</u></td> <td style="width: 5%;"><u>FY 2006</u></td> <td style="width: 5%;"><u>FY 2007</u></td> </tr> <tr> <td>CINC Experiments</td> <td></td> <td>1Q-4Q</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>									<u>D. Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	CINC Experiments		1Q-4Q															
<u>D. Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>																											
CINC Experiments		1Q-4Q																																	
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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3265		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Product Development:												
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Support Costs:												
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. CINC Experiments	Suballocation	Theater CINCs		11492								
Subtotal Test and Evaluation:				11492								
Remark:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Management Services:												
Remark:												
Project Total Cost:				11492								
Remark:												

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Exhibit R-3 (PE 0603873C)

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3352		
COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3352 Modeling & Simulation	0	25133								

A. Mission Description and Budget Item Justification

This project is responsible for the implementation of a comprehensive program that establishes and maintains an affordable and validated set of Core Models and Simulations (M&S). These Core Models and Simulations along with an extensive support structure are required for pre- and post-test evaluation activities that support the Corporate Test Program and Major Defense Acquisition Programs (MDAP) testing events. This project provides for the program management, planning, coordination, and technical oversight of system level M&S.

Extended Air Defense Testbed (EADTB) provides for the operations, maintenance and continued enhancement of three Modeling and Simulation (M&S) tools that support the Ballistic Missile Defense Organization (BMDO) system engineering and test and evaluation needs. The simulation tools maintained under this task are EADTB, Extended Air Defense Simulation (EADSIM) and Commanders Analysis and Planning System (CAPS).

EADTB will be developed to support the Army Operational Evaluation Command's interoperability demonstration for Patriot PAC-3 Independent Operational Test and Evaluation (IOT&E) and its milestone III decision. EADTB simulation and its models provide capability to do system engineering at the C4ISR architecture level, focusing on warfighter needs for interoperability. EADSIM will support the force on force domain that will focus on mission needs in a theater environment. CAPS is now supporting the Joint Defensive Planning (JDP) capability by providing a simulation with war planning capability for TBMD.

This project will provide Specific System Representation (SSR) model development for EADTB and expertise for defining requirements for development of the EADTB, EADSIM, and CAPS simulations. The SSR models will support the Corporate Test Plan and the system engineering process. The modeling and simulation requirements process will focus on support of FoS interoperability integration among MDAPs and among allied systems.

This task supports the development and sustainment of the Theater Missile Defense System Exerciser (TMDSE), BMDO's primary Hardware-in-the-Loop (HWIL) test tool for developmental TMD Family of Systems (FoS) interoperability testing. The task effort includes sustainment and required modifications of the TMDSE Build 3.1 system (Build 3.1+), development of Build 4, and future builds planning.

This project is conducted in accordance with DoDD 5000.59, DoD Modeling and Simulation (M&S) Management.

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE June 2001
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603873C Family of Systems E & I	PROJECT 3352
FY 2000 Accomplishments: <ul style="list-style-type: none"> • 0 Total 0		
FY 2001 Planned Program: <ul style="list-style-type: none"> • 9258 Provides for the operations, maintenance and continued enhancement of three modeling and simulation (M&S) tools that support the Ballistic Missile Defense Organization (BMDO) system engineering and test and evaluation needs. The simulation tools maintained under this task are Extended Air Defense Testbed (EADTB), Extended Air Defense Simulation (EADSIM) and Commanders Analysis and Planning System (CAPS). Support provided under this task includes operation, maintenance, hardware, and software of the Testbed Product Office EADTB site in Huntsville, Alabama. Support is also provided for EADSIM and CAPS tool maintenance. Independent Verification and Validation (IV&V) is provided for the EADTB M&S tool. Operations Engineering is another key aspect of EADTB support. This effort funds System Engineering, Subject Matter Expertise for Technical Interchange Meetings (TIMs), and BMDO study support. • 5034 Provides Specific System Representation (SSR) model development for EADTB and expertise for defining requirements for development of the EADTB, EADSIM, and CAPS simulations. The SSR models will support the Corporate Test Plan and the system engineering process. Also, capability will be provided to support Joint Theater Ballistic Missile Defense (JTBMD), operational requirements definition and analysis, JTBMD System Requirements Document (SRD) development, Family of Systems (FoS) engineering analysis at the architecture level, Technical Requirements Document (TRD) development, and development of A and B specifications. The modeling and simulation requirements process will focus on support of FoS interoperability integration among Major Defense Acquisition Programs (MDAPS) and among allied systems. • 10841 Supports the development and sustainment of the Theater Missile Defense System Exerciser (TMDSE), BMDO's primary Hardware-in-the-Loop (HWIL) test tool for developmental TMD Family of Systems (FoS) interoperability testing. The task effort includes sustainment of the TMDSE Build 3.1 system, development of Build 4, and future builds planning. The Build 4 development effort consists of system upgrades and the addition of new nodes consistent with user needs and validated requirements. It provides for system engineering, including requirements definition, system design and implementation, and VV&A. It supports delivery of TMDSE upgrades to the JNTF, including verification testing and Quality Deficiency Reports (QDRs) resolution. It supports the development of software and hardware for new TMDSE capabilities and implements upgrades to the tactical system drivers to maintain pace with tactical systems new software builds. It provides for the continuing upgrade of the control segment and of the JDN emulation provided by the Gateway network. Total 25133		
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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001	
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3352	

B. <u>Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
3155 - Sys Eng & Integration, PE QB_0603873C	6881									
3155 - Sys Eng & Integration, PE OB_0603872C	11488									
3261 - TMD BM/C3I, PE QB_0603873C	12203									
3352 - Modeling & Sim, PE 0603874C	37573	44451								

C. Acquisition Strategy: The work in this project is sourced through full and open competition. Majority of M&S support is performed at the JNTF, ARC/SC, BMD SSC and other test bed facilities. The ARC/SC contractor operates under a Cost Plus Fixed Fee (CPFF) contract first awarded in June of 1989.

D. <u>Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
HWILT-01b at JNTF		4Q						
JDN Thinker		2Q						
AWACS		1Q						
HWILT-01a @JNTF- TMDSE B3.1		2Q						
THAAD		3Q						
PAC-3		3Q						
CRC/CRE TPS-75		2Q						
JTAGS		2Q						
Aegis		3Q						
TAOM/ADCP/TPS-59		2Q						

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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3352		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SSR Development	Allotment	Multiple		9258								
b. EADTB	Allotment	SMDC, Huntsville, AL		5034								
c. TMDSE	Allotment	Multiple		10841								
Subtotal Product Development:				25133								
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Support Costs:												
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Test and Evaluation:												
Remark:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Management Services:												
Remark:												
Project Total Cost:				25133								
Remark:												

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001																																																																																																																																						
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3354																																																																																																																																						
COST (In Thousands)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost																																																																																																																																				
3354 Targets	5886	0																																																																																																																																												
A. <u>Mission Description and Budget Item Justification</u> The purpose of this effort was to provide for the acquisition of targets for SIT II and Impact 98 testing.																																																																																																																																														
FY 2000 Accomplishments: <ul style="list-style-type: none"> • 5886 Developed and procured medium range ballistic missile for use during TMD Family of Systems Testing in System Integration Test II (SIT). Conducted Critical Design Review, established program plan, and identified range support requirements. Total 5886																																																																																																																																														
FY 2001 Planned Program: <ul style="list-style-type: none"> • 0 Total 0																																																																																																																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">B. <u>Other Program Funding Summary</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>To Compl</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr><td>2257 PATRIOT, PE 0604865C</td><td style="text-align: center;">180674</td><td style="text-align: center;">81016</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2260 THAAD, PE 0604861C</td><td style="text-align: center;">81614</td><td style="text-align: center;">542498</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2260 THAAD, PE 0603861C</td><td style="text-align: center;">506221</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1266 NAVY THEATER WIDE, PE 0603868C</td><td style="text-align: center;">368769</td><td style="text-align: center;">456372</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2263 NAVY AREA, 0604867C</td><td style="text-align: center;">303479</td><td style="text-align: center;">271052</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3354 TARGETS, PE 0603872C</td><td style="text-align: center;">43711</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3354 TARGETS, PE 0603874C</td><td style="text-align: center;">2159</td><td style="text-align: center;">50952</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3354 TARGETS, PE 0603878C</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3360 TEST RESOURCES, PE 0603874C</td><td style="text-align: center;">65386</td><td style="text-align: center;">102746</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3360 TEST RESOURCES, PE 0603872C</td><td style="text-align: center;">14954</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3360 TEST RESOURCES, PE 0603878C</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>											B. <u>Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>	2257 PATRIOT, PE 0604865C	180674	81016									2260 THAAD, PE 0604861C	81614	542498									2260 THAAD, PE 0603861C	506221										1266 NAVY THEATER WIDE, PE 0603868C	368769	456372									2263 NAVY AREA, 0604867C	303479	271052									3354 TARGETS, PE 0603872C	43711										3354 TARGETS, PE 0603874C	2159	50952									3354 TARGETS, PE 0603878C											3360 TEST RESOURCES, PE 0603874C	65386	102746									3360 TEST RESOURCES, PE 0603872C	14954										3360 TEST RESOURCES, PE 0603878C										
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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE June 2001																			
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3354																		
C. <u>Acquisition Strategy:</u> This project utilized firm fixed price contract to procure required targets.																										
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"><u>D. Schedule Profile</u></th><th style="width: 5%;">FY 2000</th><th style="width: 5%;">FY 2001</th><th style="width: 5%;">FY 2002</th><th style="width: 5%;">FY 2003</th><th style="width: 5%;">FY 2004</th><th style="width: 5%;">FY 2005</th><th style="width: 5%;">FY 2006</th><th style="width: 5%;">FY 2007</th></tr></thead><tbody><tr><td>Critical Design Review</td><td style="text-align: center;">X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>									<u>D. Schedule Profile</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Critical Design Review	X							
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Critical Design Review	X																									
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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3354		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Theater Target	FFP	BMDO	5886									
Subtotal Product Development:			5886									
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Support Costs:												
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Test and Evaluation:												
Remark:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Management Services:												
Remark:												
Project Total Cost:			5886									
Remark:												

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BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 3359		
COST (In Thousands)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3359 Test, Evaluation and Assessment	22252	64827								

A. Mission Description and Budget Item Justification

Beginning in FY01, this project represents a consolidation of activities previously preformed and funded from multiple projects in the Family of Systems Program Element.

This project funds detailed planning, execution and analysis of BMDO's primary corporate test events directed by BMDO/TE and for flight test signature analysis, interoperability support to systems engineering and other test needs reporting across the TBM community. The primary TE-directed test events are flight tests associated with the Critical Measurements Program (CMP). Live Flight Overlays includes the System Integration Test (SIT) II and the Hardware-in-the-Loop testing conducted at the Joint National Test Facility (JNTF) using the Theater Ballistic Missile Defense System Exerciser (TMDSE). In addition to these dedicated test programs, corporate data collection, analysis and reporting is funded across various other data collection events to include CINC TAMD exercises, MDAP flight testing, service testing, and allied TBMD testing as appropriate to meet BMDO test objectives. Specifically, subtasks are further defined as follows:

Critical Measurements Program (CMP) - Designs, builds, and flies threat representative test articles in realistic scenarios that address critical BMD system functions and is an integral part of BMDO's Corporate Testing program contributing to the development of robust BMD systems. Includes test planning, execution and analysis associated with the CMP.

Test Planning and Management Support - Includes technical analysis, planning and evaluation of Corporate Test opportunities and pre-test predictions with detailed models. Also provides management support for the Director, Program Support and Assessment and his staff.

System Integration Test/Live Flight Overlays - SITs/ Overlays are dedicated, controlled live flight test with interceptors and targets to measure FoS interoperability response. This task includes the planning, execution, analysis and reporting from each test.

Hardware-in-the-Loop Testing (HWILT) - HWILT combines actual tactical hardware and software to provide cost effective assessments of the latest interoperability software upgrades. Models & Simulations are the only approach of simultaneously representing joint interoperability of all the TAMD weapons, sensors and command centers under a wide variety of operational conditions against the full set of threats in the TMD Capstone Requirements Document.

Corporate Data Collection and Analysis - This task funds corporate data collection, analysis and reporting on test events outside of the CMP, SIT/Overlay and HWILT testing programs. It also funds the TSCC, a deployable link data collection and analysis equipment suite, that is fielded in live joint play and testing events.

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BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I			PROJECT 3359																																		
FY 2000 Program: <ul style="list-style-type: none"> • 3547 Supported CINCs by developing TAMD exercise framework, and assist with developing CONOPs and TTPs. • 7104 SIT II planning. • 1280 TCMP 3A and B planning and analysis. • 2493 HWILT 00a planning, execution and analysis. • 2342 Test planning and management support. • 2217 Corporate data collection and analysis. • 3269 OTA's conducted independent operational assessments of FoS using HWILT, service testing and Joint Exercises. Provided input to FoS T&E documentation. <p>Total 22252</p>																																										
FY 2001 Planned Program: <ul style="list-style-type: none"> • 17793 Planning, execution and analysis of CMP3B. Planning for CMP Flight 4 series. • 35587 Planning and execution of Systems Integration Test II. • 5874 Planning, execution and analysis of HWILT 01a and 01b. • 3242 Corporate data collection, analysis and reporting. • 2331 Test Planning and Management Support. <p>Total 64827</p>																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">B. Other Program Funding Summary</th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th style="text-align: center;">To <u>Compl</u></th> <th style="text-align: center;">Total <u>Cost</u></th> </tr> <tr> <td>3359 System Test and Eval, PE 0603872C</td> <td style="text-align: center;">19915</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>3359 System Test and Eval, PE 0603874C</td> <td></td> <td style="text-align: center;">11375</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> </table>										B. Other Program Funding Summary	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>	3359 System Test and Eval, PE 0603872C	19915								Cont	Cont	3359 System Test and Eval, PE 0603874C		11375							Cont	Cont
B. Other Program Funding Summary	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>																																
3359 System Test and Eval, PE 0603872C	19915								Cont	Cont																																
3359 System Test and Eval, PE 0603874C		11375							Cont	Cont																																
C. Acquisition Strategy: Corporate testing supports MDAP and interceptor development. Ballistic Missile phenomenology/signature and Family of Systems interoperability data is collected, analyzed and reported to insert in the systems engineering process for product improvement.																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">D. Schedule Profile</th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> </tr> <tr> <td>HWILT 99B</td> <td style="text-align: center;">1Q</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										D. Schedule Profile	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	HWILT 99B	1Q																						
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HWILT 99B	1Q																																									
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HWILT 00A	3Q								
HWILT 01A		2Q							
HWILT 01B		4Q							
TCMP 3A	1Q								
TCMP 3B		2Q							
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BMDO RDT&E COST ANALYSIS (R-3)										DATE June 2001		
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TCMP	Allotment	SMDC - Huntsville, AL & JNTF - Colorado Springs, CO	13495									
Subtotal Product Development			13495									
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. System Test Plan/Exec	Allotment	Various	1169									
Subtotal Support Costs:			1169									
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Test Planning/Execution/ Data collection and analysis	Allotment & MIPR	Various	17615									
b. HWILT	Allotment & MIPR	Various		5874	1Q01							
c. SIT II	Allotment & MIPR	Various		35587	1Q01							
d. CMP	Allotment & MIPR	Various		17793	1Q01							
e. Corp. Data Collect and Analysis & Reporting	Allotment & MIPR	Various		3242	1Q01							
f. OT&E	Allotment	Other Test Agencies	5495	0								
g. CINCs Experiments	MIPR	Theater CINCs	3493	0								
Subtotal Test and Evaluation:			26603	62496								
Remark:												
<div style="display: flex; justify-content: space-between; padding: 5px;"> Project 3359 Page 34 of 37 Pages Exhibit R-3 (PE 0603873C) </div>												

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BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I					PROJECT 3359		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Technical Support	CPAF	Vanguard	300	2331	1Q							
b. Technical Support	CPAF	SRS	953									
Subtotal Management Services:			1253	2331								
Remark:												
Project Total Cost:				42520	64827							
Remark:												

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 4000		
COST (In Thousands)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
4000 Operational Support	9068	72088								

A. Mission Description and Budget Item Justification

Beginning with FY 01, this program element replaces the Joint TMD Dem/Val program element.

This project funds three basic areas: personnel and related facility support costs; statutory and fiscal requirements, and support service contracts.

Personnel covers government civilians performing program-wide oversight functions such as financial management, contracting, security, information systems support, and legal services at the Ballistic Missile Defense Organization located within the Washington D.C. area, as well as BMDO's Executing Agents within the US Army Space & Strategic Defense Command, US Army PEO Missile Defense, US Navy PEO for Theater Defense, US Air Force and the Joint National Test Facility. Related facility costs include rents, utilities, supplies, ADP equipment, and all the associated operation and maintenance activities.

Fiscal Requirements include reimbursable services acquired through the Defense Business Operating Fund (DBOF) such as accounting services provided by the Defense Finance and Accounting Services (DFAS); reserves for special termination costs on designated contracts; and provisions for terminating other programs as required. BMDO has additional requirements to provide for foreign currency fluctuations on its limited number of foreign contracts, statutory requirements include funding for charges to canceled appropriations in accordance with Public Law 101-510.

Finally, assistance required to support BMD program-wide management functions is also contained in this project. This assistance ranges from operational contracts to support functions such as ADP operations, Access control offices and graphics support, to efforts required to supplement BMDO and Executing Agent government personnel. Typical efforts include cost estimating, security management, information management, technology integration across BMDO projects and assessment of schedule, cost and performance, with attendant documentation of the many related programmatic issues. The requirements for this area are based on most economical and efficient utilization of contractors versus government personnel.

FY 2000 Accomplishments:

- 0 Efforts funded in the Joint Theater Missile Defense PE 0603872C

Total 0

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE June 2001			
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603873C Family of Systems E & I				PROJECT 4000		
FY 2001 Planned Program: <ul style="list-style-type: none"> • 72088 Continue providing management and support for overhead/indirect fixed costs such as civilian payroll, travel, rents & utilities and supplies. Total 72088											
B. <u>Other Program Funding Summary</u>		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To <u>Compl</u>	Total <u>Cost</u>
N/A											
C. <u>Acquisition Strategy:</u> N/A											
D. <u>Schedule Profile</u>		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		
N/A											
Project 4000		Page 37 of 37 Pages				Exhibit R-2 (PE 0603873C)					

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